

Shirashian Co.

Throttle Position Sensor

SI-511 Series



Typical Application: Throttle & Pedal Position

Features / Benefits:

- Sealed, Spring Return Rotor
- Non-Adjustable Mounting
- Clockwise Rotation
- Mates with 3 Way "Mini-Timer" Style Connector

TYPICAL SPECIFICATIONS

ELECTRICAL

Total Resistance(Terminal 1-2):	2.0 K Ω \pm 20%
Wiper protection resistance (Wiper in zero-position,terminals 1-3):	1.0 K Ω \pm 20%
Linearity:	< \pm 1% (independent)
Usable Electrical Angle Area:	104 $^{\circ}$
Angle Between Internal Stops:	110 $^{\circ}$
Output Slope:	0.00927 (% / deg) = 46.35 mV / deg
Idle Voltage:	500 \pm 200 mV
W.O.T Voltage:	4440 (+260 mV,-400 mV)
Hysteresis:	< 1% Applied Voltage
Electrical Limit:	16 VDC Maximum
Operation voltage:	5 V
Maximum Power Rating:	0.08 Watts

MECHANICAL

Right Stop Position:	0 $^{\circ}$
Left Stop Position:	110 $^{\circ}$
Torque:	Start of Rotation, >0.015 Nm End of Rotation, <0.12 Nm
Stop Strength:	0.8 N
Air Passage Leak	No leak in air pressure= 2 bar

DURABILITY

Mechanical Cycling:	1.0 \times 10 ⁶ Full Strokes 0.5 \times 10 ⁶ Half Cycles 5.0 \times 10 ⁶ Dither Strokes
Standard Vibration:	24 hrs; 3 Planes 10 to 250 Hz; 1.36 – 32 g, 0 $^{\circ}$ to 80 $^{\circ}$ C
Thermal Shock:	100 Cycles, -40 $^{\circ}$ to 135 $^{\circ}$ C
Temperature Range (Operation & Storage):	-40 $^{\circ}$ to 135 $^{\circ}$ C



HEADQUARTER
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Email:info@shirashianco.com
Date: 04/23/2002
Revised: 12/20/2012
Version: 1. 2

ENVIRONMENTAL

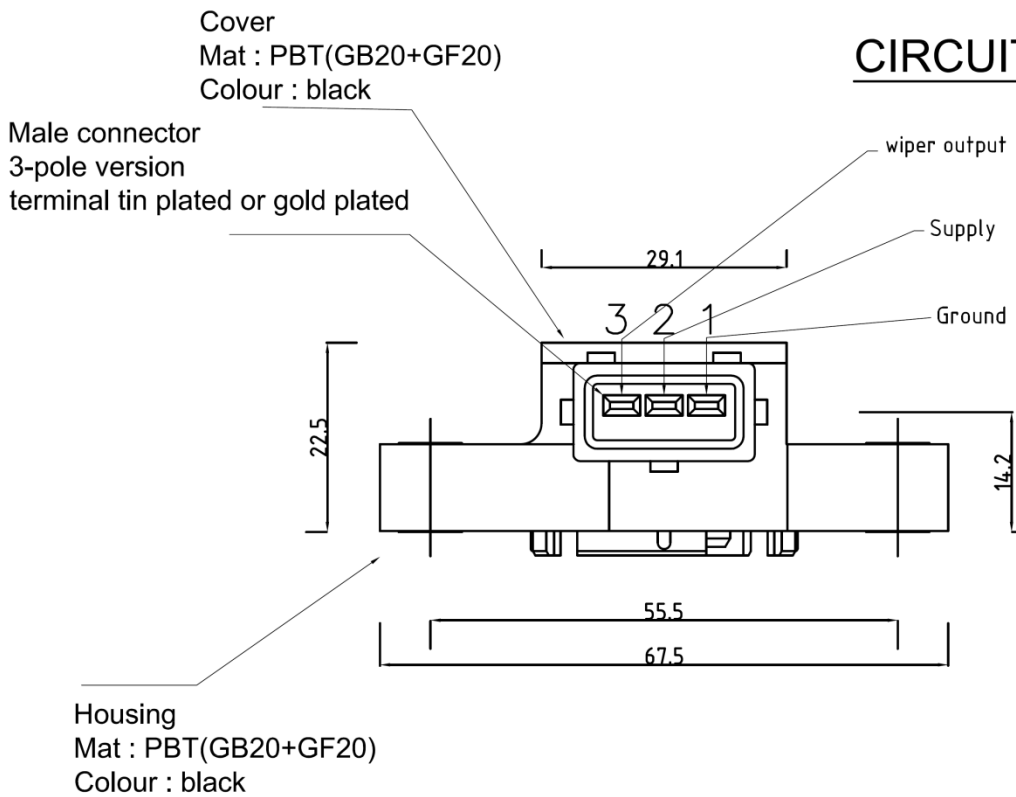
Salt Spray:	250 hrs.
Humidity:	96 hrs., 93% RH at 40°C
Resistant to gasoline, engine oil, brae fluid & antifreeze	

NOTE: These standard specifications have been met on existing production-tooled units that are tested on precise test equipment. Details are available including failure criteria. This data sheet does not constitute a warranty that the product will meet the above specifications while used in your application or attached to your test equipment.

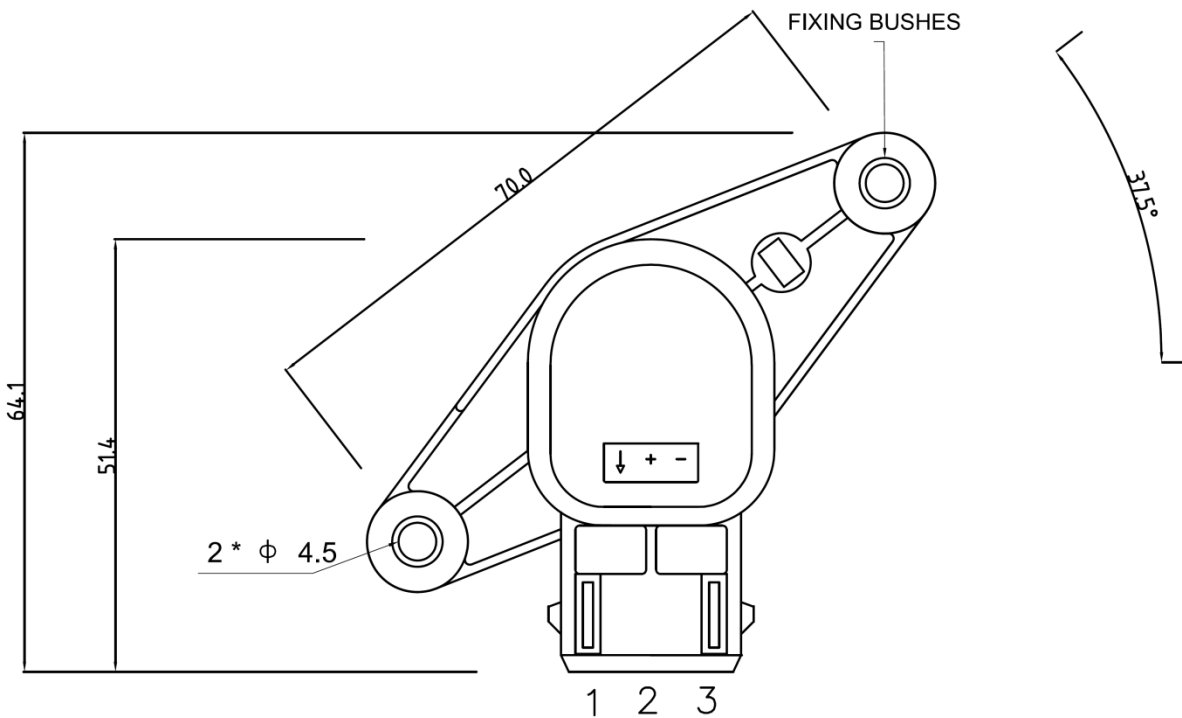
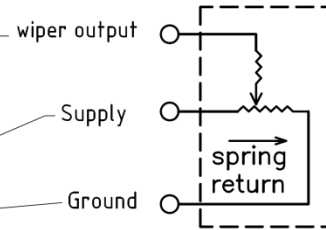
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Dimensional Details (mm)



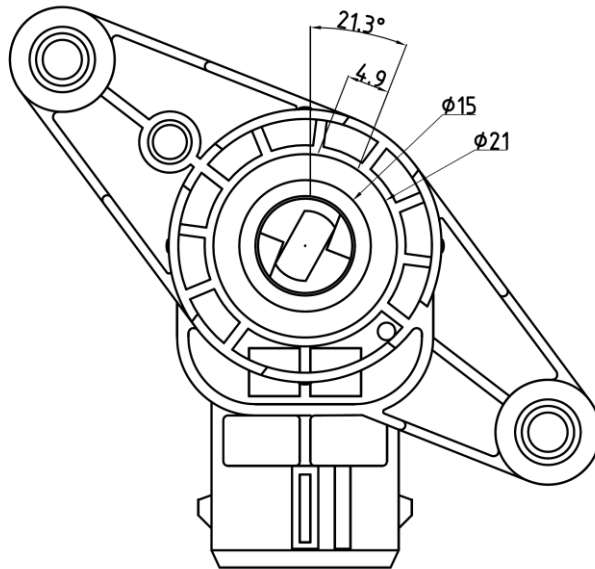
CIRCUIT DIAGRAM



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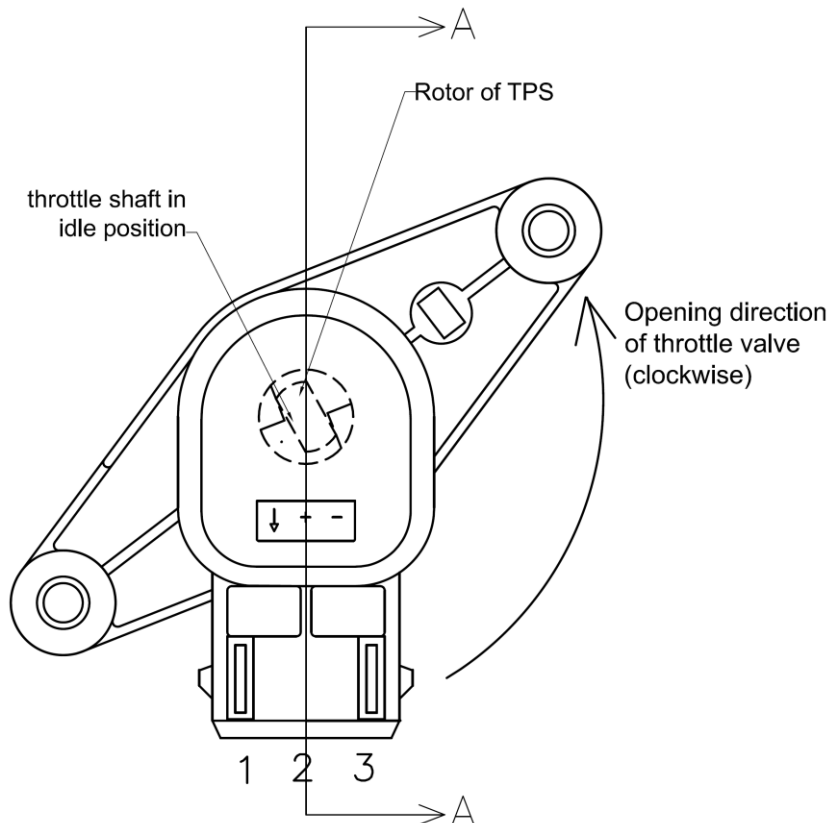
TPS in First Mechanical Stop

Note the viewpoint
(this is a back viewpoint, attention to the connector)



Throttle Shaft has been drawn in Idle position

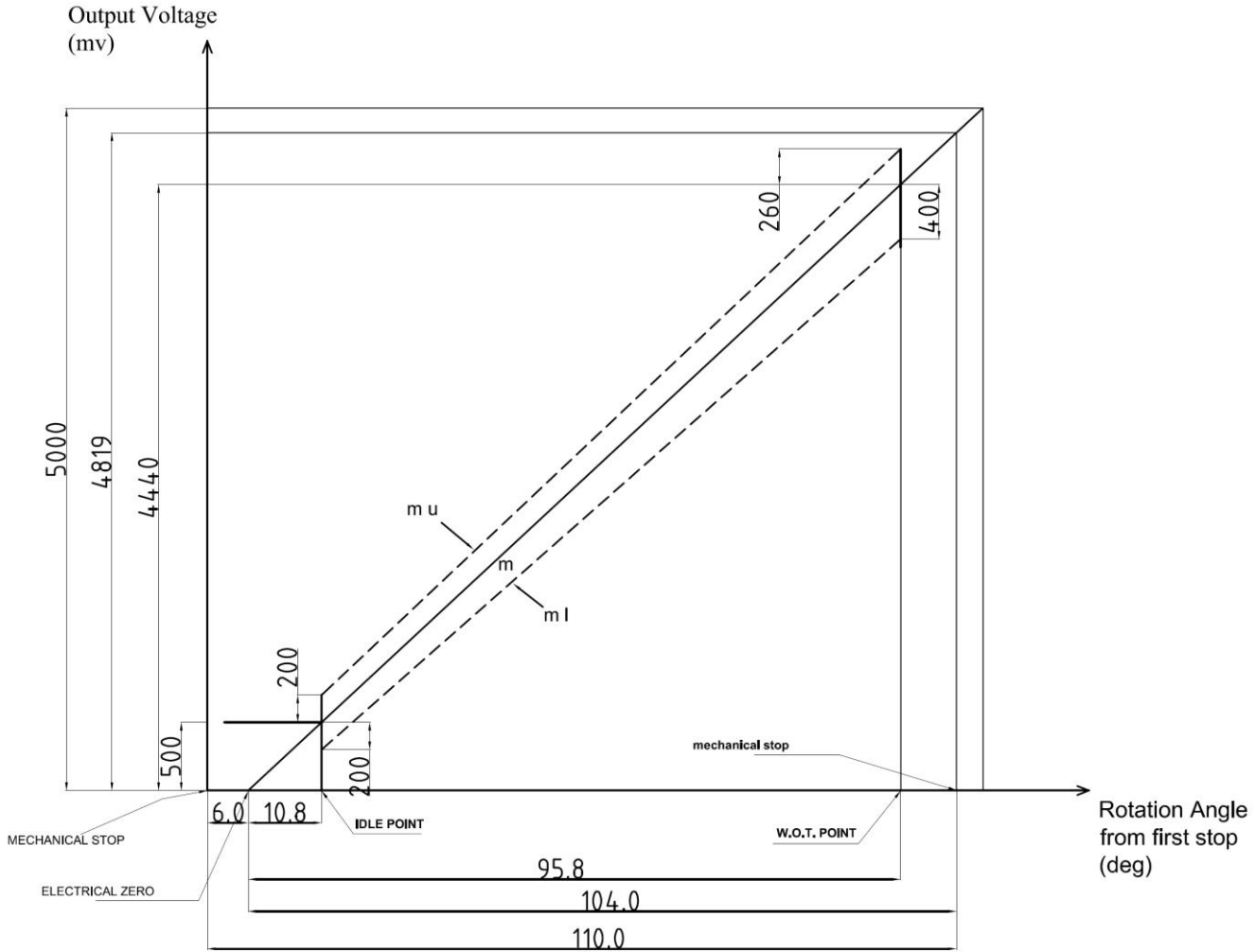
Note the viewpoint
(this is a front viewpoint, attention to the connector)



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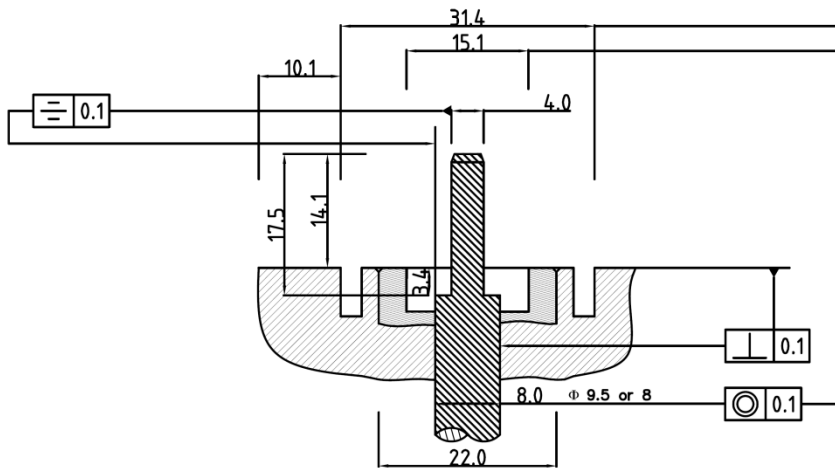
Electrical Characteristics

ELECTERICAL CHARACTERISTICS

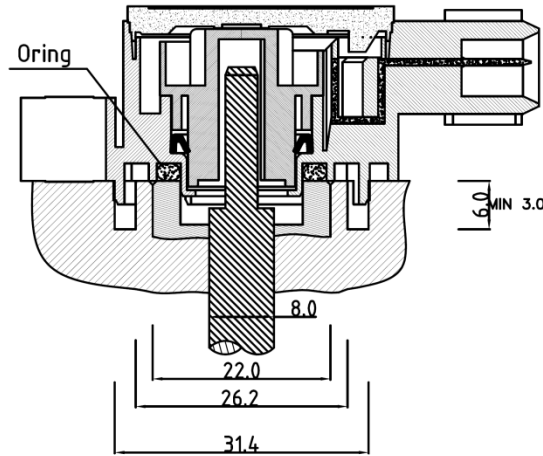


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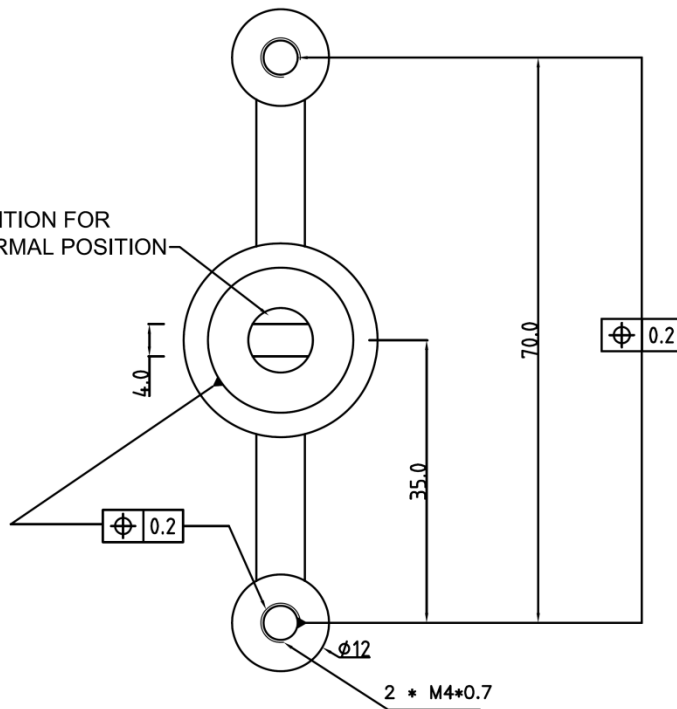
Throttle shaft has been drawn in rotated position



section A-A



SHAFT POSITION FOR TROTLE IN NORMAL POSITION



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